

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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|---|--------------------------------|
| Appellant : Frank Y. Xu <i>et al.</i>     | Art Unit : 1713                |
| Serial No. : 10/784,911                   | Examiner : Kelechi Chidi Egwim |
| Filed : February 23, 2004                 | Conf. No. : 6149               |
| Title : MATERIALS FOR IMPRINT LITHOGRAPHY |                                |

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**REPLY BRIEF**

Pursuant to 37 C.F.R. §41.41, Applicants respond to the Examiner's Answer mailed February 6, 2009 (the "Answer") in response to the amended Appeal Brief filed November 7, 2008 (the "Appeal Brief").

**35 U.S.C. §102(b) Rejections And Alternative §103(a) Rejections Over *Wojnarowicz***

Claims 1-5, 7, and 9-19 stand rejected under 35 U.S.C. §102(b) as anticipated by, or in the alternative, 35 U.S.C. §103(a) as being unpatentable as obvious over U.S. Patent No. 5,149,592 issued to Wojnarowicz ("*Wojnarowicz*").

In the Appeal Brief, Applicants argued that *Wojnarowicz* fails to disclose each and every element of any of Claims 1-5, 7, and 9-19; thus, each of these claims is not anticipated by this reference. Applicants further argued that the Examiner has not established a *prima facie* case of obviousness, and thus, for this reason alone, each of these claims is patentable over *Wojnarowicz*.

In Item (10) of the Answer ("Response to Argument"), the Examiner attempts to rebut these arguments. In Item (10)B, the Examiner discusses the term "comprising" at length, emphasizing that "the 'comprising' language encompasses any and everything that could conceivably be contained in the composition...." Answer, at 6. The Examiner seems to ignore, however, that "any and everything that could be contained in the composition" is limited by the claimed properties of the composition in the liquid state and the solid cured state.

The Examiner states: “[r]egarding the argument that ‘Claim 1 and its dependent claims are not required to include at least one...aliphatic urethane diacrylate normally provided as an oligomer’, appellant appears to be misstating the scope of their claims.” *Id.* On the contrary, Applicants are noting that the composition of *Wojnarowicz* includes at least 40% by weight of a component with a viscosity that greatly exceeds the claimed viscosity of the composition. And, while the viscosity of individual components is not claimed, a component with a high viscosity will certainly raise the viscosity of the composition. In particular, a high-viscosity component that makes up a major weight percentage of the composition will significantly influence the viscosity of the composition. So while the Examiner quotes that: “‘comprising’ leaves ‘the claim open for the inclusion of unspecified ingredients **even in major amounts**,’” Applicants note that a composition with a “major amount” of a high viscosity component would not “be expected to possess the presently claimed properties,” as asserted by the Examiner. Answer, at 6-7.

The Examiner also notes that “[a]lthough the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.” Answer, at 6. The Examiner further states: “appellant makes no particular temperature requirement for the measurement of the viscosity of the claimed composition. Thus, at a give [*sic*] temperature, the prior art compositions would meet this viscosity requirement anyway.” Answer, at 7. Applicants note, however, that during patent examination, “the pending claims must be ‘given their broadest reasonable interpretation consistent with the specification.’” M.P.E.P. §2111 (emphasis added). The Application states: “when designing an imprinting material for use in imprint lithography, further considerations include: (a) low viscosity, for example, and without limitation, a viscosity, at 25°C, of 5 centipoise or less.... It is better if the viscosity is sufficiently low so that minimal pressure, for example, and without limitation, a pressure of about 2-4 psi, and no additional heating are necessary to move the imprinting material into the relief pattern on the imprint template....” Application, para. [0005]. Furthermore, the Application also teaches the desirability of low vapor pressure, so there is little evaporation of the composition in the liquid state. Since one of ordinary skill in the art understands that vapor pressure increases exponentially with temperature, it is consistent with the specification to interpret the claimed viscosity as measured in the absence of additional heating (e.g., measured

at ambient temperature). Examiner's position that "at the appropriate temperature, the prior art compositions would meet this viscosity requirement anyway" is clearly inconsistent with the Examiner's duty to give the claims their broadest reasonable interpretation consistent with the specification. In other words, the Examiner cannot interpret the claim language more broadly than the meaning the specification has given such language. This is not the same as reading a limitation into a claim that is not already there.

### 35 U.S.C. §102(b) Rejections And Alternative §103(a) Rejections Over The *Chaouk* Patents

Claims 1-19 stand rejected under 35 U.S.C. §102(b) as anticipated by, or in the alternative, 35 U.S.C. §103(a) as being unpatentable as obvious over U.S. Patent No. 6,060,530 to *Chaouk et al.* ("*Chaouk* '530"); U.S. Patent No. 6,015,609 to *Chaouk et al.* ("*Chaouk* '609"); U.S. Patent No. 6,160, 030 to *Chaouk et al.* ("*Chaouk* '030"); or U.S. Patent No. 6,225,367 to *Chaouk et al.* ("*Chaouk* '367") (collectively the "*Chaouk* patents").

In the Appeal Brief, Applicants argued that the *Chaouk* patents fail to disclose each and every element of any of Claims 1-19; thus each of these claims are not anticipated by this reference. Applicants further argued that the Examiner has not established a *prima facie* case of obviousness, and thus, for this reason alone, each of these claims are patentable over the *Chaouk* patents.

Applicants maintain that the compositions disclosed in the *Chaouk* patents are chemically distinct from the claimed compositions. In Item (10)C of the Answer, the Examiner asserts that the claims do not exclude the prior art compositions. Again, however, the Examiner has ignored the fact that the porous polymer compositions of the *Chaouk* patents do not necessarily — and in fact cannot possibly — demonstrate the claimed properties of the cured solid state of the composition. Furthermore, as discussed in Section VII.C.1.a.i of the Appeal Brief, the high water content porous polymer is incapable of performing as an imprinting material in imprint lithography.

The Examiner states: "[r]egarding the argument that the final products prepared from the prior art would have a lower mechanical modulus than the final product prepared from the presently claimed composition, appellant is reminded that the present claims are not to the final product (cured products from the claimed composition). Even though the properties of the

intended final product are recited in the present claims, the claims are to the uncured composition." Answer, at 12. Applicants traverse these assertions.

On the contrary, M.P.E.P. §2143.03 states:

All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

M.P.E.P. §2173.05(g) states:

A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served by the recited element, ingredient or step....

Thus, the limitations regarding the solid cured product add positive recitation to the claims and must be given patentable weight. Furthermore, the Examiner has not provided a basis in fact and/or technical reasoning to support the assertion that the tensile modulus, break stress, and elongation at break of the cured solid state of the composition disclosed by the *Chaouk* patents would possess the presently claimed values

The Examiner's comments regarding viscosity (Answer, at 13) are inconsistent with the specification, as discussed above with regard to *Wojnarowicz*. Furthermore, the Examiner has not provided a basis in fact and/or technical reasoning to support the assertion that the viscosity and the vapor pressure of the composition disclosed by the *Chaouk* patents would possess the presently claimed values.

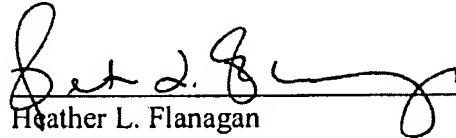
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Serial No. : 10/784,911  
Filed : February 23, 2004  
Page : 5 of 5

Attorney Docket No.: 21554-019001  
(formerly PA115-57-03)

Please apply all charges or credits to Deposit Account No. 06-1050, referencing Attorney Docket No. 21554-019001.

Respectfully submitted,

Date: March 5, 2009

  
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